



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/708,492

11/09/2000

Pui Lun Lau

6202-41

2609

21967 7590 03/18/2008

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER

BRUCKART, BENJAMIN R

ART UNIT

PAPER NUMBER

2155

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/708,492	Applicant(s) LAU, PUI LUN	
	Examiner BENJAMIN R. BRUCKART	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 33-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31, 33-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Status of Claims:

Claims 1-31, 33-50 are pending in this Office Action.

Claim 32 remains cancelled.

Claims 2 and 22 are amended.

The 35 U.S.C. 112, second paragraph rejection is withdrawn.

The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

Response to Arguments

Applicant's arguments filed 1/24/08 have been fully considered but are found not persuasive. See remarks below.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 7, 11-20, 22-31, 33-50 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,850,531 by Rao et al.

Regarding claim 1,

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

plural network ports, each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Rao: col. 5, lines 8-24); and

plural communication serial ports, each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Rao: col. 5, lines 45-52); and

a control unit to interrogate the network links (Rao: col. 2, lines 40-49) and to communicatively couple said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 8, lines 53- col. 9, line 26), the control unit further determining whether it is time to interrogate the network links (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 7, a multiple port unit as recited in claim 1, where said control unit is configured to interrogate the network links using a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 46, a multiple port unit as recited in claim 1, wherein the interrogation is effected by the control unit sending a packet (Rao: col. 9, lines 1-26).

Regarding claim 47, a multiple port unit as recited in claim 1, wherein the interrogation of the network links relates to whether a particular network link is working properly (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 48, a multiple port unit as recited in claim 1, wherein the control unit being further configured to determine whether it is time to interrogate the network links includes a determination if a preset time for switching network links has elapsed (Rao: col. 27, lines 20- 29).

Regarding claim 49, a multiple port unit as recited in claim 1, wherein said control unit identifies a network link operating properly based on the interrogation (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 50, a multiple port unit as recited in claim 49, wherein said control unit communicatively couples said communications serial ports to the selected one of said network ports to avoid the network link not operating properly (Rao: col. 9, lines 15-26).

Regarding claim 11,
a computer architecture (Rao: Fig. 1) comprising:
plural computers (Rao: Fig. 7);

plural peripheral devices (Rao: Fig. 7); and
a multiple port unit having plural network ports (Rao: col. 5, lines 8-24), plural serial ports (Rao: col. 5, lines 45-52), and a control unit (Rao: col. 2, lines 40-49), each of said network ports being coupled to one of said plural computers over a respective network link (Rao: col. 8, lines 53- col. 9, line 26), each of said communication serial ports being coupled to a peripheral device (Rao: col. 8, lines 53- col. 9, line 26), said control unit interrogating the network links and to communicatively coupling said communication serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 12, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate each of the plural computers and to control the peripheral devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 13, a computer architecture as recited in claim 12, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 14, a computer architecture as recited in claim 13, wherein said network ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 15, a computer architecture as recited in claim 14, wherein said communication serial ports comprise serial interfaces (Rao: col. 5, lines 45-52).

Regarding claim 16, a computer architecture as recited in claim 14, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 17, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate said network links using a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 18, a computer architecture as recited in claim 12, wherein said control unit is configured to interrogate said computers using Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 19, a computer architecture as recited in claim 12, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 20, a computer architecture as recited in claim 12, wherein said peripheral devices are intelligent electronic devices (Rao: col. 5, lines 17-52; computers, ISP, content server farms).

Regarding claim 22,
a multiple port unit adapted for coupling one or more computers to multiple intelligent electronic devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

two Ethernet ports, each of said Ethernet ports being configured to couple the multiple port unit to a computer over a respective Ethernet link (Rao: col. 5, lines 8-24); and

plural serial ports, each of said serial ports being configured to couple the multiple port unit to an intelligent electronic device (Rao: col. 5, lines 45-52); and

a control unit to interrogate the Ethernet links (Rao: col. 2, lines 40-49) and to communicatively couple said serial ports to a selected one of said Ethernet ports based on the interrogation of the Ethernet links (Rao: col. 8, lines 53- col. 9, line 26), the control unit being further determining whether it is time to interrogate the Ethernet links (Rao: col. 8, lines 53- col. 9, line 26), the interrogation of the Ethernet links including:

Art Unit: 2155

the control unit sending out a packet (Rao: col. 8, line 55- col. 9, line 26), and
the control unit then waiting for a reply, in response to the sent packet (Rao: col. 8, line 55- col. 9, line 26).

Regarding claim 23, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate each of the plural the computers and to designate a selected one of the computers as an active computer to control the intelligent electronic devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 24, a multiple port unit as recited in claim 23, wherein said control unit interrogates the computers over each of the Ethernet links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 25, a multiple port unit as recited in claim 24, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 26, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 27, a multiple port unit as recited in claim 23, wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 28, a multiple port unit as recited in claim 23, comprising 8 serial ports (Rao: col. 5, lines 17-52).

Regarding claim 29, a multiple port unit as recited in claim 22, further comprising a data bus coupled to said control unit, said Ethernet ports, and said serial ports (Rao: col. 6, lines 11-35).

Regarding claim 30,

a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Rao: col. 4, lines 54-67; Fig. 1), said multiple port unit comprising:

plural network ports, each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Rao: col. 5, lines 8-24); and

plural communication serial ports, each of said communication serial ports being configured to couple the multiple port unit to a peripheral device (Rao: col. 5, lines 45-52); and

control means for interrogating the network links and communicatively coupling said serial ports to a selected one of said network ports based on the interrogation of the network links (Rao: col. 2, lines 40-49); and

wherein said control means interrogates plural computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 31, a multiple port unit as recited in claim 30, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control means comprises computer interrogating means for interrogating each of the plural computers designating a selected one of the computers as an active computer to control the peripheral devices based on the interrogation of the computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 33, a multiple port unit as recited in claim 31, wherein said network communication serial ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 34, a multiple port unit as recited in claim 33, wherein said communication serial ports comprise serial ports (Rao: col. 5, lines 45-52).

Regarding claim 35, a multiple port unit as recited in claim 33, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 36, a multiple port unit as recited in claim 30, wherein said control means comprises means for detecting a network carrier signal (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 37, a multiple port unit as recited in claim 31, wherein said computer interrogation means comprises Packet Internet Groper (Rao: col. 9, lines 8-14).

Regarding claim 38, a multiple port unit as recited in claim 30, further comprising a data bus coupled to said control mean, said network ports and said communication serial ports (Rao: col. 6, lines 11-35)

Regarding claim 39, a multiple port unit as recited in claim 31, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 40,

a method of coupling plural peripheral devices to computers (Rao: col. 4, lines 54-67; Fig. 1), said method comprising the steps of:

interrogating the status of plural network connections with a control unit of a multiple port unit having plural network ports coupled to the plural network connections (Rao: col. 5, lines 8-24; col. 8, lines 53- col. 9, line 26) and a plural communication serial port coupled to peripheral devices (Rao: col. 5, lines 45-52), the control unit determining whether it is time to interrogate prior to performing the interrogation (Rao: col. 8, lines 53- col. 9, line 26); and

coupling the plural communication serial ports to one of the network connections based on the results of said step of interrogating the status of plural network connections (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 41, a method as recited in claim 40 further comprising the steps of: interrogating the status of plural computers respectively coupled to the network connections (Rao: col. 8, lines 53- col. 9, line 26); and

controlling the peripheral devices based on the results of said step of interrogating the status of plural computers (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 42, a method as recited in claim 41, wherein said step of interrogating the status of plural network connections comprises detecting a carrier on each network connection (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 44, a method as recited in claim 41, further comprising the step of maintaining a record of the status of each computer and each network connection in the control unit (Rao: col. 8, lines 53- col. 9, line 26).

Regarding claim 45, a method as recited in claim 41, further comprising the step of transferring status data between the computers at the direction of the control unit (Rao: col. 8, lines 53- col. 9, line 26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable by U.S. Patent No. 6,850,531 by Rao et al in view of U.S. Patent No. 6,222,714 by Hoffman et al.

Regarding claims 21, the Rao reference teaches a computer architecture as recited in claim 20, with intelligent electronic devices. The Rao reference fails to teach controlling protective relays. However the Hoffman reference teaches wherein said intelligent electronic devices are protective relays (Hoffman: col. 7, lines 30-46) in order to provide digital signals to control the device (Hoffman: col. 7, lines 30-46).

It would have been obvious to one of ordinary skill in the art to create the system as taught by Rao to include the intelligent devices such as protective relays as taught by Hoffman in order to provide digital signals to a controller for controlling a device.

Claims 2-6, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable by U.S. Patent No. 6,850,531 by Rao et al in view of U.S. Patent No. 6,591,314 by Colbath.

Regarding claim 2, the Rao reference teaches a multiple port unit as recited in claim 1, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control unit is configured to interrogate each of the plural computers.

The Rao reference does not teach selecting an active computer.

However, the Colbath reference teaches selecting an active device based on link interrogation (Colbath: col. 1, lines 11-47) in order to select an input without user interaction (Colbath: col. 1, lines 25-30).

It would have been obvious at the time of the invention to one of ordinary skill in the art to create the unit as taught by Rao to include selecting an active computer for controlling as taught by Colbath in order to select an input without user interaction (Colgath: col. 1, lines 25-30).

Regarding claim 3, a multiple port unit as recited in claim 2, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Rao: col. 27, lines 20-29).

Regarding claim 4, a multiple port unit as recited in claim 3, wherein said network ports comprise Ethernet ports (Rao: col. 5, lines 18-24).

Regarding claim 5, a multiple port unit as recited in claim 4, wherein said communication serial ports comprise serial ports (Rao: col. 5, lines 45-52).

Regarding claim 6, a multiple port unit as recited in claim 4, further comprising two redundant power supplies (Rao: col. 8, lines 24-25).

Regarding claim 8, wherein said control unit is configured to interrogate the computers using Internet Packet Groper (Rao: col. 9, lines 8-14).

Regarding claim 9, a multiple port unit as recited in claim 2, comprising two network ports and 8 communications ports (Rao: col. 5, lines 17-52).

Regarding claim 10, a multiple port unit as recited in claim 2, further comprising a data bus coupled to said control unit, said network ports and said communication serial ports (Rao: col. 6, lines 11-35).

REMARKS

Applicant has made amendments to claims 2 and 22 and argues the independent claim over the cited Rao reference. The examiner finds arguments unpersuasive and changes a dependent rejection based on an amendment.

The Applicant Argues:

1) The Rao reference does not teach “a control unit”

In response, the examiner respectfully submits:

The examiner maintains the rejection because the Rao reference teaches the broad claim limitations.

The Rao reference teaches a Chasis Management Module (CMM) that works in conjunction with a fault tolerant application manager (FTAM) to monitor the ports and links of the device for failures so that it can recover from faults and failures (col. 8, lines 53-col. 9, line 26 and col. 2, lines 40-49). These modules interrogate the network links for the failures. They monitor and check on clocked intervals. Applicant has not defined the claims to exclude hardware or software only means to any part of the controller. Rao meets the breadth of the claim by teaching “a control mechanism that interrogates the network links.”

Applicant argues that the "hello message" of Rao does not teach 'interrogating the links.' Rao does read on this limitation. The 'hello messages' are periodically sent to interrogate the link for failure or non-responsiveness. This timed interval is substantially similar to applicant's specification page 9, lines 4-13 in which a PING, “respectively based on a predetermined interrogation period” to monitor the operating status of the links. The control unit would use the same time-determination because it checks at fixed length intervals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on weekdays from 9 to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin R Bruckart
Examiner
Art Unit 2155

/Benjamin R Bruckart/
Examiner, Art Unit 2155

/saleh najjar/
Supervisory Patent Examiner, Art Unit 2155